



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/774,312

02/05/2004

Kenneth L. Levy

P0930

5422

23735 7590 09/05/2007  
DIGIMARC CORPORATION  
9405 SW GEMINI DRIVE  
BEAVERTON, OR 97008

EXAMINER

FUJITA, KATRINA R

ART UNIT

PAPER NUMBER

2624

MAIL DATE

DELIVERY MODE

09/05/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/774,312

Applicant(s)

LEVY ET AL.

Examiner

Katrina Fujita

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8 and 9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 08/14/2007.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

1. This Office Action is responsive to applicant's remarks received on August 14, 2007. Claims 1-7 and newly added 8 and 9 are pending.

### ***Election/Restrictions***

2. Applicant's election with traverse of Species I in the reply filed on August 14, 2007 is acknowledged. The traversal is on the ground(s) that a serious burden on the examiner has not been *prima facie* shown. This is not found persuasive because a different field of search would be required for each Species, which appropriately establishes a *prima facie* burden. See § MPEP 808.02.

The requirement is still deemed proper and is therefore made FINAL.

3. Claim 7 is withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected Species II, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on August 14, 2007.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 8 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for encoding specific types of objects (e.g. ID cards), does not reasonably provide enablement for encoding any object under the sun commensurate with the full scope of the claim (e.g. a carpet fiber or a drop of water, etc.). The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 8 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9 defines a "system", which falls under the statutory category of a "machine" (commonly referred to as an apparatus). Machines must be recited and defined in terms of their structure, rather than their functions alone. While features of an apparatus may be recited either structurally or functionally, claims directed to an

Art Unit: 2624

apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997). Claim 9 on the other hand fails to recite any structure at all, making the full scope of the claim in term of how it distinguishes over the prior art unclear. Claim 9 appears to be an improper "machine" claim.

Claim 8 is rejected on the same grounds, in that a "manufacture" (commonly referred to as a product) must also distinguish over the prior art in terms of its structure. However, no such structure is recited.

### ***Specification***

8. The disclosure is objected to because of the following informalities:

On page 3, line 21, "subtract the template to other images" should be -- subtract the template ~~to~~ from other images --.

Appropriate correction is required.

9. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code on page 11, line 3. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

Art Unit: 2624

10. The use of the trademark Outlook™ has been noted in this application on page 10, line 7. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

### ***Claim Objections***

11. The following is a quotation of 37 CFR 1.75(a):

The specification must conclude with a claim particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention or discovery.

12. Claim 1 is objected to under 37 CFR 1.75(a), as failing to particularly point out and distinctly claim the subject matter which application regards as his invention or discovery.

Claim 1 recites "the collection of geometrical features" in line 4. It is unclear whether this is intended to be the same as or different from the "collection of features" in line 2. The following will be assumed for examination purposes: -- the collection of geometrical features --. Accordingly, subsequent recitations of "geometrical features" will be assumed as -- features -- for consistency.

***Claim Rejections - 35 USC § 102***

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

14. Claims 1, 2, 6, 8 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Macy et al. (US 6,707,926).

Regarding **claims 1 and 8**, Macy et al. discloses a method that includes encoding ("encoding a template" at col. 6, line 43) one or more content objects ("rows or columns" at col. 6, line 67) with a steganographic digital watermark ("invisible watermark" at col. 2, line 19) and an object encoded in accordance with the method ("method of producing a watermarked image" at col. 6, line 47), the encoding including embedding a collection of features ("row and column bands" at col. 6, line 51) that can be used to facilitate computation of geometrical distortion of the object after encoding ("determine the extent of scaling and/or shifting" at col. 5, line 37), an improvement

including step for making the collection of features resistant to attack ("embedded watermark can not be removed or tampered" at col. 1, line 52).

Regarding **claim 2**, Macy et al. discloses a method wherein said step includes adding said collection of features in some of said objects ("adds the template to the next two rows or columns" at col. 7, line 1), and subtracting said collection of features from other of said objects ("subtracts the template from the first two rows or columns" at col. 6, line 67).

Regarding **claims 6 and 9**, Macy et al. discloses a method that includes decoding a steganographic digital watermark from an encoded object ("decoding a spatial template that is encoded in an image" at col. 8, line 51) and a system for practicing the method (figure 11), the encoding including a template signal ("spatial template" at col. 17, line 1) that aids in determining corruption of the object ("determine the extent of scaling and/or shifting" at col. 5, line 37), an improvement comprising step for detecting the template signal without log-polar remapping (figure 4).

15. Claims 1, 5 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Hayashi et al. (US 2001/0055390).

Regarding **claims 1 and 8**, Hayashi et al. discloses a method that includes encoding one or more content objects with a steganographic digital watermark ("embedding a digital watermark in image data" at paragraph 0001, line 2) and an object encoded in accordance with the method (figure 1, numeral w1), the encoding including



Art Unit: 2624

embedding a collection of features ("registration signal" at paragraph 0093, line 2) that can be used to facilitate computation of geometrical distortion of the object after encoding ("geometric manipulation including rotation" at paragraph 0104, line 3), an improvement including step for making the collection of features resistant to attack ("providing resistance to geometric transformation" at paragraph 0005, line 2).

Regarding **claim 5**, Hayashi et al. discloses a method wherein said step includes obscuring said collection of features by designing same to become apparent only in an alternate domain (figure 4, numeral 0402).

16. Claims 1, 3 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Rhoads (US 6,266,430).

Regarding **claims 1 and 8**, Rhoads discloses a method that includes encoding one or more content objects with a steganographic digital watermark ("audio and video signal processing, and more particularly relates to the processing of such signals to embed auxiliary data" at col. 1, line 27) and an object encoded in accordance with the method ("encoded content signal" at col. 1, line 57), the encoding including embedding a collection of features ("calibration data" at col. 1, line 52) that can be used to facilitate computation of geometrical distortion of the object after encoding ("registering the suspect signal to match the original" at col. 17, line 37), an improvement including step for making the collection of features resistant to attack ("robust against various forms of content degradation, e.g., lossy compression/decompression, scaling" at col. 1, line 58).

Regarding **claim 3**, Rhoads discloses a method wherein said step includes embedding said collection of features at a first scale (figure 6, numeral 210) in a first object (figure 6, numeral 218), and embedding said collection of features at a second, different scale in a second object ("For each input sample (i.e. look-up table address), the table provides a corresponding 8-bit digital output word. This output word is used as a scaling factor that is applied" at col. 16, line 18).

***Claim Rejections - 35 USC § 103***

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Hayashi et al. and Jones et al. (US 6,792,130).

Hayashi et al. discloses the elements of claim 1 as described in the 102 rejection above.

Hayashi et al. does not disclose that said step includes embedding said collection of geometrical features at a first orientation in a first object, and embedding

Art Unit: 2624

said collection of geometrical features at a second, different orientation in a second object.

Jones et al. discloses a method in the same field of endeavor of digital watermarking ("method for embedding watermarks in digital image sequences" at col. 1, line 9) wherein said step includes embedding said collection of features (figure 7,  $C_1(X,Y)$ ) at a first orientation ("Different carrier images are then formed by spatially transforming 56...transformations can include, but are not limited to: rotations around the carrier image center at 90° increments" at col. 7, line 37) in a first object (first frame), and embedding said collection of features at a second, different orientation (figure 7,  $C_2(X,Y)$ ) in a second object (second frame).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to utilize the spatial transformation of Jones et al. to embed the registration signal of Hayashi et al. to "improve performance under certain types of removal attacks and/or allows for the amplitude of the watermark to be reduced to a lower level" (Jones et al. at col. 8, line 5).

### ***Conclusion***

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katrina Fujita whose telephone number is (571) 270-1574. The examiner can normally be reached on M-Th 8-5:30pm, F 8-4:30pm.

Art Unit: 2624

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian P. Werner can be reached on (571) 272-7401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Katrina Fujita  
Art Unit 2624

/Brian P. Werner/  
Supervisory Patent Examiner (SPE), Art Unit 2624